

Acquisition Checklist For Wastewater Conveyance Facilities

The following checklist provides a format for review and evaluation of local agency wastewater conveyance facilities under consideration for inclusion into the County's regional conveyance system. Beyond the basic criteria of service to a minimum 1000 acres and economic feasibility, the checklist is intended to identify and evaluate basic facility characteristics such as capacity, condition, performance, reliability and maintainability for consistency with the County system.

Describe facility, related County facilities and general service area:

The Bellefield Pump Station is currently owned and operated by the City of Bellevue and located just north of the entrance to the Bellefield Office Park at the intersection of 112th Avenue SE and SE 15th Street. The existing station has three identical 20-horsepower vacuum primed pumps, each capable of pumping 1,325 gpm at 42 feet TDH. The majority of the pump station is below grade with only some HVAC equipment, the electrical service connection, and an emergency generator connection above grade. Curbed hatches provide means of egress from the pump room and access for pump removal.

The Bellefield Pump Station collects wastewater from City of Bellevue Mercer Slough Basin (Basin 10). This basin encompasses the northern portion of the County's Swayolocken Basin, and drains the eastern portion of the Bellevue Central Business District.

The 14-inch Bellefield Pump Station force main discharges into the County's Bellevue Trunk near the intersection of Bellevue Way and 112th Avenue SE. Wastewater is then conveyed in the Bellevue Trunk to the Swayolocken Pump Station from which it is pumped to the Eastside Interceptor in twin 20-inch forcemains.

Does the facility occupy property or easements adequate to assure and enable future operation and maintenance including repair? Identify easements, if applicable.

The Bellefield Pump Station is located with approximately half the pump station in the right-of-way for 112th Avenue SE and the other half in an 18-foot by 64- foot permanent easement.

Does the facility provide service consistent with the County's regional service plan?

The facility is located within the City of Bellevue in an area served under all the Regional Wastewater Service Plan strategies. Acquisition of this facility will not impact any of the Regional Wastewater Service Plan Strategies. This facility is identified in the City of Bellevue Comprehensive Sewer Plan.

How many acres served from this facility?

The total service area of this facility is about 840 acres.

Is the capacity of this facility adequate to convey County flow projections including storm-related flow?

The reported firm capacity of the Bellefield Pump station is 3.8 mgd. According to the 1994 Bellevue Comprehensive Sewer Plan, the Bellefield Pump Station does not have sufficient capacity to meet the ultimate modeled projected flows or practical buildout projected flow. Construction of a new pump station near the existing one has been assumed for ultimate conditions.

Is the facility constructed of materials and equipment of a quality to provide a service life consistent with the type of facility?

The facility is a cast-in-place vacuum-primed lift station with the drywell directly above the wetwell. Although this design results in a smaller footprint, it is less reliable than other types of pump stations since problems with the priming system will cause the pump to fail and the potential for plugging the long suction intakes. No operational problems with this station were noted in the 1994 Bellevue Comprehensive Sewer Plan.

Does the facility incorporate adequate features for maintenance including periodic inspection consistent with County capability?

The existing facility is primarily below grade. At-grade hatches with 6-inch curbs provide access to the pumps and drywell below. The equipment can be accessed with a boom truck and other standard County equipment.

Does the facility incorporate features to optimize mechanical and electrical reliability and minimize performance problems such as noise, odor and corrosion?

The pump station includes an emergency generator and a connection for a trailer mounted emergency generator for a reliable supply of electrical power. No specialized noise, odor, or corrosion control facilities are evident on the construction drawings. However, no odor was detected outside the facility during a site visit on a warm summer day and the noise from the pumps was barely detectable next to the hatches.